

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Augusto D. Hernandez et al. Art Unit : 2859
Serial No. : 10/656,881 Examiner : Richard A. Smith
Filed : September 8, 2003 Confirmation No.: 8107
Title : STEP VOLTAGE REGULATOR POLYMER POSITION INDICATOR WITH
NON-LINEAR DRIVE MECHANISM

Commissioner for Patents
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PRELIMINARY AMENDMENT

Prior to examination, please amend the application as indicated on the following pages.

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Original) A position indicator, comprising:
a position indicator display and mechanism;
a polymer housing to house the position indicator display and mechanism; and
a one-piece clear polymer cover enclosing the position indicator display and mechanism in the polymer housing.
2. (Original) The position indicator of claim 1 further comprising:
a hinge; and
a hand-operated latch that secures the one-piece clear polymer cover to the polymer housing such that the one-piece clear polymer cover can be opened without the use of tools.
3. (Original) The position indicator of claim 2 wherein the hinge includes a first portion that is integrated with the polymer housing and a second portion that is integrated with the one-piece clear polymer cover.
4. (Currently amended) [[A]] The position indicator of claim 1, further comprising:
an input shaft having an angular velocity; and
a pointer to indicate a position of a tap changer and having an angular velocity; and
~~a drive mechanism connected to the input shaft and the pointer, wherein the drive mechanism is non-linear such that the angular velocity of the input shaft is not directly related to the angular velocity of the pointer.~~

5. (Currently amended) The position indicator of claim [[4]] 23 wherein the drive mechanism includes a Geneva-type mechanism.

6. (Currently amended) The position indicator of claim [[4]] 23 wherein a resulting motion of the pointer includes a dwell.

7. (Currently amended) The position indicator of claim [[4]] 23 wherein the drive mechanism includes an interchangeable output drive component to change rotation of the pointer relative to rotation of the input shaft.

8. (Currently amended) The position indicator of claim [[4]] 23 wherein the drive mechanism includes an output drive component and the pointer is integrated with the output drive component.

9. (Currently amended) The position indicator of claim [[4]] 23 wherein the drive mechanism includes an output drive component and the position indicator further comprises a maximum position pointer actuator that is integrated with the output drive component.

10. (Currently amended) The position indicator of claim [[4]] 23 wherein the drive mechanism includes an output drive component and the position indicator further comprises a limit switch triggering cam that is integrated with the output drive component.

11. (Currently amended) [[A]] The position indicator of claim 1, further comprising:
a main position indicating assembly; and
a modular maximum position indicating subassembly that is secured to the main position indicating assembly with a hand-operable fastener.

12. (Original) The position indicator of claim 11 wherein the hand-operable fastener includes a thumbscrew.

13. (Original) The position indicator of claim 11 wherein the modular maximum position indicating subassembly includes a polymer base.

14. (Original) The position indicator of claim 11 further comprising a drive mechanism having a concentric circular gap, wherein the modular maximum position indicating subassembly fits inside the concentric circular gap in the drive mechanism.

15. (Original) The position indicator of claim 11 wherein the modular maximum position indicating subassembly is configured to be secured to the main position indicating assembly without tools.

16. (Original) The position indicator of claim 11 wherein the modular maximum position indicating subassembly includes a solenoid that is capable of receiving a quick connecting electrical connector.

17. (Currently amended) [[A]] The position indicator of claim 1, further comprising:
a housing;
a limit switch; and
a one-piece limit switch adjuster that holds the limit switch and further includes integrated functionality to constrain the one-piece limit switch adjuster in the housing without fasteners.

18. (Original) The position indicator of claim 17 wherein the one-piece limit switch adjuster includes a molded polymer part.

19. (Original) The position indicator of claim 17 further comprising a retaining ring, and wherein the one-piece limit switch adjuster includes an integrated tab that mates with a notch on the retaining ring to hold the one-piece limit switch adjuster in place in the housing.

20. (Original) The position indicator of claim 17 wherein the housing includes a channel and the one-piece limit switch adjuster slides in the channel in the housing.

21. (Original) The position indicator of claim 20 wherein the one-piece limit switch adjuster slides in the channel in the housing without a bearing or a hinge.

22. (Original) The position indicator of claim 17 wherein the one-piece limit switch adjuster includes a rocker-type snap switch.

23. (New) The position indicator of claim 1 further comprising a drive mechanism connected to the input shaft and to the pointer.

24. (New) The position indicator of claim 23 wherein the drive mechanism is non-linear such that the angular velocity of the input shaft is not directly related to the angular velocity of the pointer.

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REMARKS

Claims 1-24 are pending, with claim 1 being independent. Claims 23 and 24 have been added. Support for these new claims can be found in the originally-filed specification, at least at page 2, line 13 to page 3, line 3. No new matter has been added.

Applicant asks that all claims be examined in view of the amendment to the claims.

The fee in the amount of \$100 in payment for the excess claim fee is being paid concurrently herewith on the Electronic Filing System (EFS) by way of Deposit Account authorization. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

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